



Australian Government

ICPSCP333 Automatically prepare direct emulsion stencil

Release: 1

ICPSCP333 Automatically prepare direct emulsion stencil

Modification History

Release	Comments
Release 1	This version first released with ICP Printing and Graphic Arts Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to select, prepare, coat and store direct emulsion stencils using automatic coating equipment.

It applies to individuals working in the printing and graphic arts industry who may have to set up and operate power-driven or hand-operated screen printing machines. They may have to provide leadership and guidance to others and have some limited responsibility for the output of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Screen printing

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1 Prepare work area and equipment	1.1 Work area is made clean and functional prior to commencement of work 1.2 Equipment is inspected to ensure it is functional and, where necessary, appropriate remedial action is taken prior to commencement of work 1.3 Appropriate coating troughs for automatic coaters are selected, ensuring they are free of nicks and burrs 1.4 Automatic coating equipment is inspected and routine user maintenance is carried out according to manufacturer instructions and enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	1.5 Automatic coating equipment is adjusted to suit screen frame and mesh and emulsion
2 Prepare screen	2.1 Screen is selected according to job specifications 2.2 Chemicals are applied and removed according to work health and safety (WHS) requirements and manufacturer or supplier specifications 2.3 Tension of screen mesh is checked for suitability according to job specifications
3 Select emulsion	3.1 Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type 3.2 Emulsion is checked for expiry date and appropriate action taken 3.3 Emulsion is prepared according to WHS requirements and manufacturer or supplier specifications 3.4 Emulsion is used and dried according to manufacturer or supplier specifications
4 Process coated screen	4.1 Coated screen frame is placed in vacuum frame and adequately vacuumed with positive positioned according to manufacturer or supplier specifications 4.2 Light source is positioned according to manufacturer or supplier specifications 4.3 Exposure is calculated and stencil exposed according to manufacturer or supplier specifications 4.4 Exposed screen is removed from vacuum frame Exposed screen is washed after positive removal according to 4.5 WHS requirements and manufacturer or supplier specifications 4.6 Processed stencil or screen is inspected for flaws
5 Store screen	5.1 Prepared screen is labelled according to enterprise specifications 5.2 Prepared screen is stored in clean, dry environment according to manufacturer or supplier specifications

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.4, 2.1-2.3, 3.2-3.4, 4.1-4.3, 4.5, 5.1, 5.2	- Establishes job requirements from relevant information - Identifies correct process from procedural documentation
Writing	5.1	Completes routine labelling associated with production processes and enterprise procedures
Numeracy	4.3	Uses simple mathematical calculations to determine required exposure time
Navigate the world of work	1.4, 2.2, 3.3, 4.5, 5.2	Understands and complies with legislative requirements and organisational procedures relevant to own role
Get the work done	1.1-1.3, 1.5, 2.1, 2.3, 3.1, 3.2, 4.1, 4.2, 4.4, 4.6	- Takes responsibility for planning and organising own workload, identifying ways of sequencing and combining elements for efficiency - Automatically implements standard procedures for routine decisions - Recognises and takes responsibility for addressing predictable problems in familiar work contexts - Understands the purposes, specific functions and key features of common digital systems and tools, and operates them effectively to complete routine tasks, adapting some functions to improve efficiency

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPSCP333 Automatically prepare direct emulsion stencil	ICPSP333C Automatically prepare direct emulsion stencil	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a74b7a0f-a253-47e3-8be0-5d426e24131d>

Assessment Requirements for ICPSCP333 Automatically prepare direct emulsion stencil

Modification History

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Performance Evidence

Evidence of the ability to:

- correctly prepare TWO different direct emulsion stencils using automatic coating equipment
- expose, wash and dry the screen according to manufacturer and job specifications, enterprise procedures and occupational health and safety requirements.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe the influence that the mesh count has on the final printed product
- outline the importance of correct screen tension
- explain the different tensions required for screens of various mesh counts and grades
- outline the degreasing or cleaning techniques that are employed prior to coating the screen
- describe information that is contained in material safety data sheets (MSDS) for the emulsion being used
- identify the work health and safety (WHS) requirements that need to be considered for exposure to UV light sources
- identify the pollution and environmental issues that need to be considered when working with emulsions
- outline the maintenance that is required for the automatic coating machine
- describe two different emulsions used in screen printing and outline their characteristics, their shelf life and areas of use
- discuss the preparation formula for one emulsion and its storage requirements
- describe the need to have the correct illumination in the work area
- discuss the influence that the length of run and ink or dye being used have on the coating technique, the number of coats of emulsion and the best method of coating the screen

- outline the factors that are taken into consideration to determine the angle at which the coaters coat the screen
- describe the appropriate position (horizontal or vertical) for drying the screen and the effect that each of these positions has on the way the emulsion dries
- describe the effect of heat on the emulsion during the drying process and the function and use of a light integrator
- describe the procedure for exposing the stencil and the effect that the position, angle and distance of the light source have on the exposure process
- describe the importance of perfect contact between positive and screen during exposure
- identify the effect that temperature, pressure and time taken have on the washing out process and wash-out completion
- identify the ideal position of the screen for drying to prevent scum and streaking and the impact of post-curing on the stencil
- describe information obtained from the MSDS for this particular blackout
- identify the bearing of ink to be used on a particular stencil and the type of stencil on the type of blackout
- name the preventive measures that can be taken to minimise pinholes
- explain the importance of taping the edge of the frame and the squeegee edge, and the means used to identify the screen at a later date
- identify required manuals, safety and other documentation and briefly outline the relevant information in each source
- explain where you might find other relevant sources of information.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the screen printing field of work and include access to chemicals and relevant equipment.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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